UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Galt, C. *Docket No.:* 3745 *Art Unit:* 4182

In re:

Applicant: MAHLER, M., et al

Serial No.: 10/588,183

Filed: August 2, 2006

LETTER

May 5, 2010

Commissioner for Patents
P O Box 1450
Alexandria, VA 22313-1450

This communication is responsive to the Notification of Non-Compliant Appeal Brief.

With the present communication Appellants submitted a new section of "SUMMARY OF CLAIMED SUBJECT MATTER", which provides a concise explanation of the subject matter defined in independent Claims 1, 11 and 12.

Also, the "CLAIMS APPENDIX" has been submitted as well without markings as required.

Respectfully submitted,

Michael J. Striker
Attorney for Applicant
Reg. No. 27233

UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Galt, C. *Docket No.:* 3745 *Art Unit:* 4182

In re:

Applicant: MAHLER, M., et al

Serial No.: 10/588,183

Filed: August 2, 2006

BRIEF ON APPEAL

May 5, 2010

Commissioner for Patents
P O Box 1450
Alexandria, VA 22313-1450

This is a Brief on Appeal from the final rejection of Claims 1-3 and 4-12 by the primary Examiner.

REAL PARTY IN INTEREST

The real party in interest in this application is Robert Bosch GmbH, having a business address of Postfach 30 02 20, D-70442 Stuttgart, Germany.

RELATED APPEALS AND INTERFERENCES

There are no pending, appeals, interferences or judicial proceedings known to appellant, the appellant's legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

The present application was originally filed with Claims 1-10.

During the prosecution Claim 4 was cancelled and additional Claims 11 and 12 have been submitted.

The application now contains Claims 1-3 and 5-12. These claims are rejected by the Examiner.

STATUS OF AMENDMENTS

On August 10, 2009, applicants filed an Amendment responsive to the Examiner's Office Action. In response, on December 2, 2009 a Final Office Action was issued by the Examiner.

No Amendments have been filed after the Final Office Action of December 2, 2009.

SUMMARY OF CLAIMED SUBJECT MATTER

The present application contains independent Claims 1, 11 and 12.

Claim 1 defines a method for determining the thickness of material by penetrating the material, in particular a method for measuring a thickness of walls, ceilings and floors. This is disclosed for example in lines 4-5 on page 1, lines 13-15 on page 2, lines 19-22 on page 5, and shown in Figures 1-3 of the drawings.

In the inventive method as defined in Claim 1 a measurement signal (28) in the gigahertz frequency range is emitted using a single high-frequency transmitter (24), the measurement signal (28) penetrates the material (10) to be investigated at least once, and it is detected by a single high-frequency receiver (38). This is disclosed from line 23 on page 5 to line 2 on page 6, and in lines 12-22 on page 8, and shown in Figures 1 and 2.

In the method in accordance with the present invention as defined in Claim 1 the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24), and the single high-frequency receiver (34) operated in a same hand-held device. This is

disclosed in lines 18-20 on page 2, lines 11-15 on page 3, lines 7-11 on page 6, from line 22 on page 6 to line 23 on page 7, in lines 25-29 on page 9, on pages 10, 11 and 12, and shown in Figures 1 and 2 of the drawings.

Claim 11 defines a method for determining the thickness of material by penetrating the material, in particular a method for measuring a thickness of walls, ceilings and floors. This is disclosed for example in lines 4-5 on page 1, lines 13-15 on page 2, lines 19-22 on page 5, and shown in Figures 1-3 of the drawings.

In the inventive method as defined in Claim 11 a measurement signal (28) in the gigahertz frequency range is emitted using a single high-frequency transmitter (24), the measurement signal (28) penetrates the material (10) to be investigated at least once, and it is detected by a single high-frequency receiver (38). This is disclosed from line 23 on page 5 to line 2 on page 6, and in lines 12-22 on page 8, and shown in Figures 1 and 2.

In the method in accordance with the present invention as defined in Claim 11 the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24), and the single high-frequency receiver (34). This is disclosed in lines 18-20 on page 2, lines 11-

15 on page 3, lines 7-11 on page 6, from line 22 on page 6 to line 23 on page 7, in lines 25-29 on page 9, on pages 10, 11 and 12, and shown in Figures 1 and 2 of the drawings.

In the method of the present invention as defined in Claim 11 the single high-frequency transmitter (24) and the single high-frequency receiver (38) are operated on a first surface (14) of the material, and the measurement signal (28) from the single high-frequency transmitter (24) is reflected back to the single high-frequency receiver (38) by a transponder (18) located on a second surface (16) of the material (10). This is disclosed in the paragraph bridging pages 5 and 6, in lines 7-30 on page 6, and in lines 1-19 on page 7, and shown in Figures 1 and 2.

Claim 12 defines a method for determining the thickness of material by penetrating the material, in particular a method for measuring a thickness of walls, ceilings and floors. This is disclosed for example in lines 4-5 on page 1, lines 13-15 on page 2, lines 19-22 on page 5, and shown in Figures 1-3 of the drawings.

In the inventive method as defined in Claim 12 a measurement signal (28) in the gigahertz frequency range is emitted using a single high-frequency transmitter (24), the measurement signal (28) penetrates the material

(10) to be investigated at least once, and it is detected by a single high-frequency receiver (38). This is disclosed from line 23 on page 5 to line 2 on page 6, and in lines 12-22 on page 8, and shown in Figures 1 and 2.

In the method in accordance with the present invention as defined in Claim 12 the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24), and the single high-frequency receiver (34). This is disclosed in lines 18-20 on page 2, lines 11-15 on page 3, lines 7-11 on page 6, from line 22 on page 6 to line 23 on page 7, in lines 25-29 on page 9, on pages 10, 11 and 12, and shown in Figures 1 and 2 of the drawings.

In the method of the present invention as defined in Claim 12 the single high-frequency transmitter (24) and the single high-frequency receiver (38) are operated on a first surface (14) of the material, and the measurement signal (28) from the single high-frequency transmitter (24) is reflected back to the high-frequency receiver (38) by a reflector means (18).

Claim 12 differs by Claim 11 in that, while Claim 11 defines that the measurement signal is reflected back by a transponder (18) located on a second surface (16) of the material (10), Claim 12 defines that the measurement signal

(28) is reflected back to the high-frequency receiver (38) by a reflector means (18). These features are disclosed in the same parts of the specification and shown in the same drawings, while the reflector means (18) is described in the sentence bridging pages 6 and 7 of the specification and in lines 3-19 on page 7 of the specification and shown in Figures 1 and 2.

<u>GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL</u>

In the Final Office Action the Examiner rejected Claims 1, 2, 5-8 and 12 under 35 USC 103(a) as being unpatentable over the U.S. patent to Arndt. It is therefore the first ground for rejection to be reviewed on appeal whether these claims are patentable over the patent to Arndt under 35 USC 103(a).

The Examiner also rejected Claims 3, 9, 10 and 11 under 35 USC 103(a) over the U.S. patent to Arndt in view of the U.S. patents to Nix, Stump, and McEwan. Therefore, the second ground of rejection to be reviewed on appeal is whether Claims 3, 9, 10 and 11 are patentable over the combination of the above specified four references under 35 USC 103(a).

ARGUMENT

Argument Related to First Ground of Rejection

Before the analysis of the prior art it is believed to be advisable to emphasize the new features of the present invention.

In accordance with the present invention a method for determining a thickness of material is proposed. The method is performed by penetrating the material, and in the inventive method a measurement signal in a gigahertz frequency range emitted using a single high-frequency transmitter (24) penetrates the material (10) to be investigated and is detected by a single high-frequency receiver (38). The thickness of the material (10) is measured by at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24) and the single high-frequency receiver (34) operated in a same hand-held device. These features of the present invention are defined in Claims 1, 11, and 12, the broadest independent claims currently on file.

In the prior art applied by the Examiner, and in particular to the patent to Arndt, it can be seen that the invention disclosed in this reference deals with a method for locating an object which is concealed in a medium. The method disclosed in this reference has nothing to do with a method for determining a thickness of the material. In the method disclosed in the reference

the measurement signal goes through a medium in which an object is concealed, reaches the object inside the medium, is reflected from the object in the medium, and the signal reflected from the object is detected. It is completely clear that the measurement signal does not fully penetrate the material, but instead in the moment when it reaches the object inside the material it is immediately reflected back by the object without penetrating through the material, and therefore cannot determine a thickness of the material.

Furthermore, the method disclosed in the reference has nothing to do with a method for determining a thickness of material from at least two transit-type measurements of the measurement signal, before various positions of the high-frequency transmitter and the high-frequency receiver. The device disclosed in the patent to Arndt can move laterally to the surface of the examined material, which however is not sufficient to determine thickness of the material, but provides measurements at different locations of the material to detect objects enclosed in the medium, or in other words the Arndt device moves over the surface to detect inhomogenuities behind the surface.

Claim 12, the another independent claim on file, defines, in addition to the above mentioned new features of the present invention, that the high-frequency transmitter and the high-frequency receiver are operated on a first surface of the material, and the measurement signal from the high-frequency

transmitter is reflected back to the high-frequency receiver by a reflector means (18) located on the second surface of the material. This clearly means that the measurement signal penetrates the material from the first surface through the material thickness to the second surface, and back from the second surface through the whole material thickness to the first surface.

The patent to Arndt does not disclose the new features of the present invention which are defined in Claim 12 and therefore Claim 12 should be considered also as patentably distinguishing over the art and should be allowed.

As for Claims 5-8, these claims depend on Claim 1, they share its allowable features, and they should be allowed as well. It is believed that this is how the first ground for rejection to be reviewed on appeal should be treated.

Reconsideration of the Final Office Action, reversal of the Examiner's rejection of Claims 1, 2, 5-8 and 12, and allowance of these claims are most respectfully requested.

Argument Related to Second Ground of Rejection to be Reviewed on Appeal

Claim 11, a further independent claim on file, defines, in addition to the above mentioned new features of the present invention defined in Claim 1, that the high-frequency transmitter and high-frequency receiver are operated on the first surface of the material, and the measuring signal from the high-frequency transmitter is reflected back to the high-frequency receiver by a transponder located on a second surface of the material.

As emphasized hereinabove, the measurement signal disclosed in the patent to Arndt never reaches the second surface of the material to be reflected, for example by a transponder, but instead is reflected from an object located inside a medium spaced from the second surface.

The other references applied by the Examiner in combination, namely the patents to Nix, Stump, and McEwan also do not teach the new features of the present invention as defined in Claim 11.

Therefore, a combination of the patent to Arndt with these references would not lead to the applicant's invention as defined in Claim 11.

Claim 11 should be considered as patentably distinguishing over the art and should be allowed.

As for Claims 3, 9 and 10, these claims depend directly or indirectly upon Claim 1, they share its allowable features, and therefore it is respectfully submitted that they should be allowed as well.

It is believed that this is how the second ground for rejection to be reviewed on appeal has to be dealt with, and the Examiner's rejection of Claims 3, 9, 19 and 11 should be reversed and these claims should be allowed.

Reconsideration of the present application, reversal of the Examiner's rejection of the claims, and allowance of the present application with all the claims currently on file is most respectfully requested.

Respectfully submitted,

Michael J. Striker
Attorney for Applicant
Reg. No. 27233

<u>CLAIM APPENDIX</u>

1. A method for determining the thickness of material by penetrating the material, in particular a method for measuring the thickness of walls, ceilings and floors, with which a measurement signal (28) in the gigahertz frequency range emitted using a single high-frequency transmitter (24) penetrates the material (10) to be investigated at least once and is detected by a single high-frequency receiver (38),

wherein the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24) and the single high-frequency receiver (34) operated in a same hand-held device.

2. The method as recited in Claim 1, wherein the high-frequency transmitter (24) and the high-frequency receiver (38) are operated on a first surface (14) of the material (10), and the measurement signal (28) from the high-frequency transmitter (24) is reflected back to the high-frequency receiver (38) by a reflector means (18).

3. The method as recited in Claim 2, wherein, the reflector means (18) includes a transponder (40,140, 240, 340).

Claim 4 cancelled.

5. The method as recited in Claim 4, wherein the measuring device (12) is moved over a surface (14) of the material to record the at least two transit-time measurements.

6. The method as recited in Claim 5, wherein, the displacement path (s) of the measuring device (12) is detected.

7. The method as recited in Claim 1, wherein the measurement signal (28) is generated in the gigahertz frequency range using a pulsed-radar method and is launched into the material (10).

8. The method as recited in Claim 1, wherein one or more measurement frequency/frequencies (28) are used in an interval of 1000 MHz to 5000 MHz, and preferably in an interval of 1500 MHz to 3500 MHz.

9. A device system for carrying out the method as recited in Claim 1, wherein the device includes at least one high-frequency measuring device (12) capable of being placed on a surface (14) of a material (10), with at least one high-frequency transmitter (24) and a high-frequency receiver (38), and a transponder (40, 140, 240, 340) capable of being moved relative to this high-frequency measuring device.

10. The system as recited in Claim 9, wherein the at least one high-frequency measuring device (12) includes a position-detection system (50, 52) for recording a path (s).

11. A method for determining the thickness of material by penetrating the material, in particular a method for measuring the thickness of walls, ceilings and floors, with which a measurement signal (28) in the gigahertz frequency range emitted using a single high-frequency transmitter (24) penetrates the material (10) to be investigated at least once and is detected by a single high-frequency receiver (38), wherein the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24) and the single high-frequency receiver (34), wherein the single high-frequency transmitter (24) and the single high-frequency receiver (38) are operated on a first surface (14) of the material (10), and the measurement signal (28) from the single high-frequency transmitter (24) is reflected back to the single high-frequency receiver (38) by a transponder (18) located on a second surface (16) of the material (10).

12. A method for determining the thickness of material by penetrating the material, in particular a method for measuring the thickness of walls, ceilings and floors, with which a measurement signal (28) in the gigahertz frequency range emitted using a single high-frequency transmitter (24) penetrates the material (10) to be investigated at least once and is detected by a single high-frequency receiver (38),

wherein the thickness (d) of the material (10) is measured via at least two transit-time measurements of the measurement signal performed for various positions (20, 22) of the single high-frequency transmitter (24) and the single high-frequency receiver (34) operated in a same hand-held device; and

wherein the high-frequency transmitter (24) and the high-frequency receiver (38) are operated on a first surface (14) of the material (10), and the measurement signal (28) from the high-frequency transmitter (24) is reflected back to the high-frequency receiver (38) by a reflector means (18).

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.